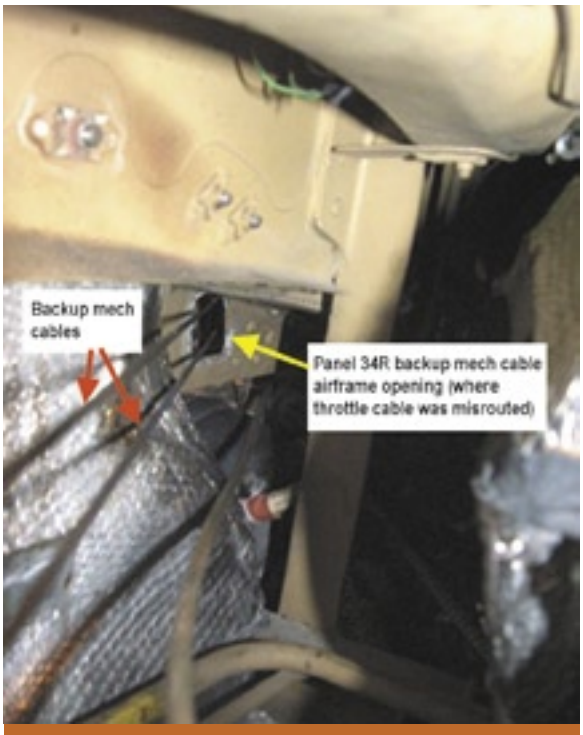
The 18-Inch Rule

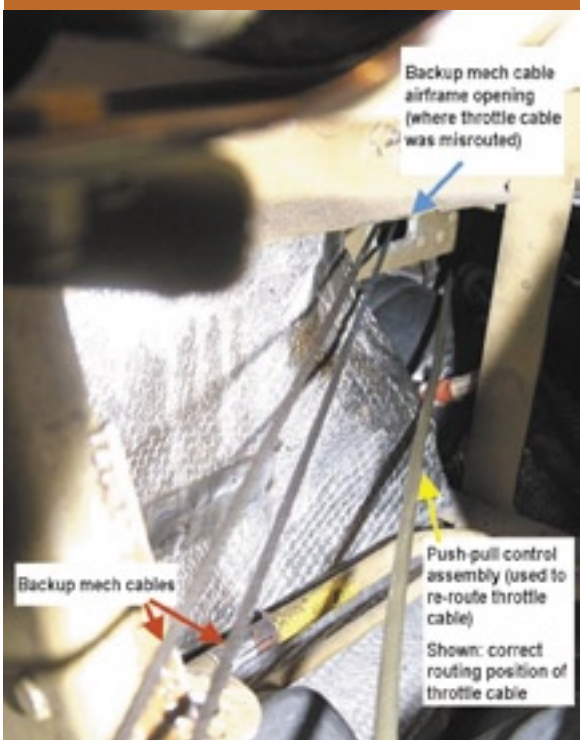
By AT1(AW) Cora Purcell, VFA-81

Most maintenance personnel have heard of the 18-inch rule and know what it means. For those who don't, the 18-inch rule means that whenever you do maintenance or inspect an aircraft, you should not focus on just that task or specific area alone. Instead, you should expand your view and look at the general area within 18 inches of the specific task. This practice is drummed into maintenance personnel from day one.

Look around the immediate area where you are working, with an eye on finding discrepancies. Many minor problems can be found and corrected before they become major ones. The following example demonstrates how one maintainer's version of the 18-inch rule prevented a major problem.

Aircraft 112, a recently accepted transfer aircraft, was in "specials" for a routine 84-day inspection. AD1 Lindsay, acting as a quality assurance representative (QAR), also was inspecting the back-up mechanical flight-control cables (as recommended in CSFWL Maintenance Gram 04-05). The maintenance gram said to look at the cables and all associated components in panels 41 left and right. Because many of the aircraft's access panels were open for the 84-day inspection, AD1 Lindsay decided to inspect all portions of the back-up mech cables that were visible in any of these open panels (hence the 18-inch rule). While inspecting the cables in panel 34 right, he noticed that the middle throttle cable for the right engine showed signs of rubbing and chafing. Further inspection revealed a groove worn into the shielding around the throttle cable. In one place, the shielding was worn through, and the throttle cable itself was damaged. AD1 Lindsay thought, "This is not good!"





The middle throttle cable was routed through the horizontal-stabilizer, flight-control-cable cutout, along with the back-up mech cables. Petty Officer Lindsay believed the throttle cable was misrouted and this misrouting had caused the damage to the throttle cable. He checked the aircraft publications to verify his suspicions. The pubs did not discuss or show the specific routing for the middle throttle cable in panel 34 right. He conferred with his fellow ADs, and they agreed the cable was not routed properly. However, none of them could prove it with the current aircraft publications.

AD1 Morris, the powerplants work-center LPO, suggested they contact the local Boeing representative to see if he could provide any guidance.

Fortunately, the Boeing representative was able to provide the technical drawings that proved the cable was routed incorrectly. The cable was repaired and rerouted correctly—underneath the horizontal stab cutout, vice through it.

Our quality-assurance division completed a naval aviation maintenance discrepancy report (NAMDRP) on this discovery. As a result, efforts are underway to revise the F18C-D Power Plant and Related Systems Maintenance Publication (A1-F18AC-270-310) to add an illustration showing the correct routing of the middle throttle-cable assembly in panel 34 right.

As part of the original maintenance gram, all AD1 Lindsay had to do was inspect the back-up mechanical flight-control cables in panels 41 R/L. He expanded that inspection into all the other open panels and associated cables, identifying a potentially fatal discrepancy. It was reported via the NAMDRP, thereby notifying other squadrons of this potential hazard. Also, a publication is being revised to decrease the likelihood of this discrepancy ever occurring again.

Next time you go out to change a tire, do a daily, or CDI the installation of a WRA, don't forget the 18-inch rule because you never know what you might find.

Never Thought I'd Need a Cranial To Push a Broom

By AOAN David Maryatt, VFA-136

It was the middle of a busy workweek at the NAS Oceana paint hangar. Our plan was to stay through the night to finish a paint job on aircraft 303 before day shift came in at 0630. Due to unforeseen circumstances, we didn't get a chance to do so. Allow me to introduce myself—I'm Mr. Unforeseen Circumstance.

Our night-check supervisor, who was the only qualified painter and CDI, was a little under the weather and had to leave. Without a supervisor, we could not start the actual painting, so we decided to at least get the prep work done.

Our assistant supervisor told us to finish cleaning and taping off the aircraft before returning to the shop. After we had completed that job, the assistant supervisor showed up with the duty truck to take us back. I noticed the deck still needed to be swept before we could leave, so I found a broom resting against the wall and commenced to sweep the immediate area around the jet. Working my way from the nose of the aircraft to the tail, I pushed off with my left leg extended in front of me and fell. Because it's a paint hangar, the floor was very slick from overspray.

I hit my head on the corner of the nose-landing-gear door and began to bleed profusely. Unaware of my injury or bleeding, I got up, shook my head, and started walking toward the hangar door, en route to the truck. A shipmate stopped me and helped with my injury and bleeding. I ended up going to a clinic, where I had to endure having six staples put in my head—not fun!

As I look back on that day, I realize I could have done a few things to prevent this mishap. For starters, if I simply had been wearing a cranial, my injury would have been far less severe. We religiously wear cranials when we climb up and down ladders or when we get on top of an aircraft, but few people consider the low-lying hazards, like weapons pylons, pitot probes, and landing-gear doors when walking around aircraft. Also, if I had taken the time to pay attention to what I was doing, I would have recognized the slick floor and not rushed the job. Next time, I won't assume that a task as simple as sweeping a floor is free from risk.